POPULATION TODAY

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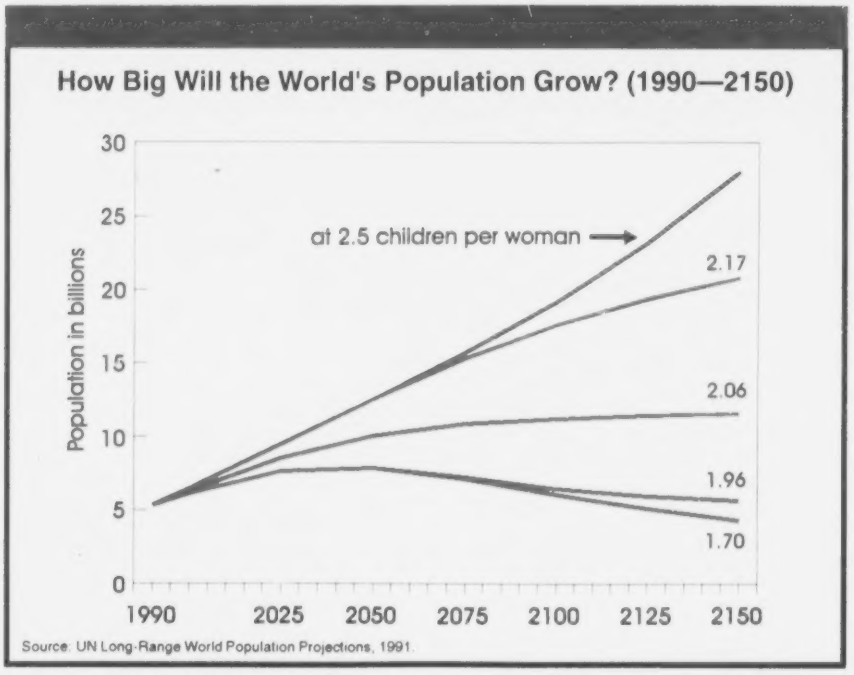

4 billion? 11 billion? 28 billion? UN projections show surprising results (see page 6).

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FROM THE EDITOR'S DESK

Risk and uncertainty. Sometimes the connections between two stories in an issue simply shout to be addressed. Such is the case in this issue with "Child Survival and the Demographic Trap" and the Demographer's Page, "UN Projections Show Uncertainty of Future World."

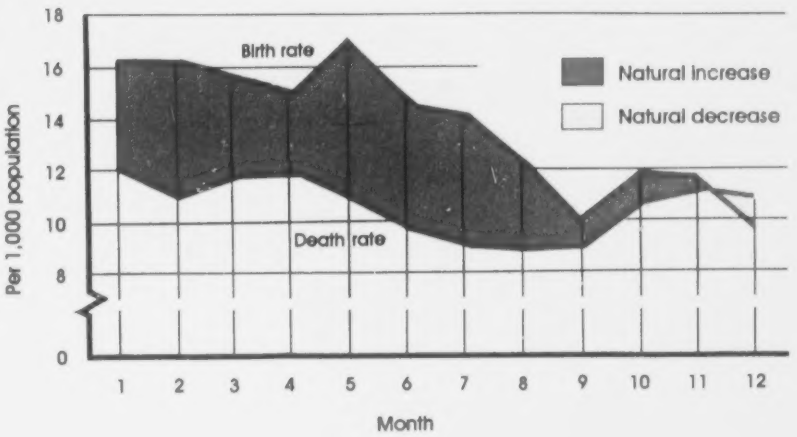
The first story reviews the controversy raised by Maurice King of the University of Leeds. Speaking from a perspective that might be characterized as ecological Malthusianism, King warns of the "demographic trap." In some developing countries, birth rates have remained high even as infant mortality has fallen, producing a population surge that could in some cases overwhelm carrying capacity, bringing ecological deterioration, drought, famine, forced migration, and higher mortality levels. In the second story, PRB's Carl Haub examines UN projections that show the incredible range of possible future world population sizes, depending on whether world fertility settles at slightly greater, or slightly less, than replacement level.

The new UN projections underscore the uncertainty of ultimate world population size. It is a general principle that uncertainty exaggerates risk. Common sense suggests that, in this case, we can most effectively reduce uncertainty about world population size by making vigorous efforts to provide the knowledge and means of family planning to people all around the world. Significantly enough, this seems to be the one point on which all contributors to the "demographic trap" debate seem to agree.

—Susan Kalish

SPEAKING GRAPHICALLY

Romania: Births Plummeted in 1990



Births fell dramatically in Romania after the January 1, 1990, repeal of the Ceausescu regime's near-total ban on contraception and abortion (see Take a Number, page 10). Month-by-month figures show that the birth rate dropped from just over 16 per 1,000 population in January to under 10 per 1,000 in December, changing natural increase to decrease.

Source: *Informatii Statistice Operative* no. 1 (February 1991), România-Comisia Nationalà Pentru Statistică.

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Recycled Paper

The Late1980s Baby Boomlet: Delayed Childbearing Or Not?

Emily Fraker

When U.S. fertility rose at the end of the 1980s for the first time since the end of the post-World War II baby boom, there was a good deal of speculation about what caused it. During the three-year period 1986-1989, the U.S. total fertility rate[1] (TFR) rose from 1.84 to 2.01 children per woman.

In 1989, births topped 4 million for the first time since 1964, drawing considerable press attention. One popular explanation has been *delayed childbearing*. According to this line of thought, more U.S. women are working in career-oriented jobs, are marrying later, and thereby put off having children until over age 30.

Before 1986, the TFR had remained pegged at 1.8 since the mid-1970s. One thing that drew attention to delayed childbearing was that the TFR would actually have fallen below 1.8 in the mid-1980s, had not birth rates for women in their 30s risen slowly. Birth rates for younger women continued to fall a bit during that period. So, there was a solid rationale for extending the delayed childbearing hypothesis to the late 1980s.

One problem that should have caused suspicion about the delayed childbearing theory was that the TFR rose by too great an amount from 1986 to 1989 for women over 30 to be the likely sole cause. Typically, women under age 30 account for the lion's share of childbearing, so that any significant increase in the TFR is likely to be largely due to that group. In fact, the age-specific rates for *all* age groups above 30 generally sum to less than the rate for the 25-29 age group alone. The under-30 group tends to account for about 70 percent of U.S. fertility.

More at every age

But the theory that delayed childbearing fueled the late-1980s baby boomlet could not be proved or disproved until birth rates by age of mother became available. The 1989 numbers, just released by the National Center for Health Statistics (NCHS), make it quite clear that delayed childbearing was not the major cause.

In 1986, the birth rate for women 25-29 was 109.2 births. By 1989, it had risen to 116.6, an increase of 7.4 per 1,000, (see table). Likewise, for women age 20-24, the birth rate rose from 108.0 to 115.4 per 1,000, a jump of 7.2. For women age 30-34, the rate went from 69.3 to 76.2, a rise of 6.9 per 1,000. So, although it is true that the rate increased by a higher percentage for the 30-34 group, it actually accounted for a lesser amount of the TFR increase.

In fact, birth rates for all three age groups below 30 increased by a larger amount than for women over 30. The TFR rose after 1986 because birth rates for *all* women increased, but particularly for those below 30. Childbearing over 30 has played a role, but it wasn't as significant as younger groups. Women under 30 accounted for about two-thirds of the 1986-1989 TFR rise.

Older mothers

Despite all of this, it is still true that women are having children at older average ages than they did in the past. In 1989, 29 percent of all births were to women over 30, compared with 20 percent in 1980, and 18 percent in 1970. In fact, from the mid-1970s low point of U.S. fertility, birth rates for women 30-

Changes in Age-Specific Fertility, 1986-1989

Age Group	1989 Births per 1,000 women	Increase Over 1986	Percent Change
15-19	58.1	7.5	14.8
20-24	115.4	7.2	6.7
25-29	116.6	7.4	6.8
30-34	76.2	6.9	10.0
35-39	29.7	5.4	22.2
40-44	5.2	1.1	26.8

PRB calculations based on data from National Center for Health Statistics, "Advance Report of Final Natality Statistics, 1989. Monthly Vital Statistics Report 40(8S), December 12, 1991.

[1]The total fertility rate is the average number of children a woman would have in her lifetime if the rate of childbearing of a particular year were to remain constant.

Continued on next page

Late 1980s Boomlet
Continued from previous page

34 rose by a good deal more than for other groups. In 1976, the rate for 30-34 year-olds was 53.6 per 1,000 and rose, as we have seen, to 76.2 by 1989—a whopping 40 percent. During the same period, birth rates for the 25-29 group only rose from 106.2 to 116.6.

U.S. fertility, in fact, has been undergoing a number of complex changes. In 1970, the TFR was a lofty 2.5 children per woman. By the bicentennial year of 1976, it had fallen to 1.7—a huge drop. After that, very slow increases in over-30 birth rates helped keep the TFR at about 1.8, while rates for younger women remained flat. Then, in the late 1980s, the TFR rose unexpectedly. Based upon preliminary data for 1990, it probably rose to 2.1, or replacement level.

Overall fertility has dropped, stabilized, and then risen while age patterns have changed simultaneously. Because of this complexity, one can find support for any number of contradictory interpretations. Take, for example, the following statement: "U.S. women age 30-34 are no more likely to have children today than they were in 1970." We can support this assertion by comparing the rates for the 30-34 group in those years: 73.3 in 1970 to 76.2 in 1989. Not much change there. Or, we can argue against it by pointing out that, since *overall* fertility has dropped since 1970, the 30-34 age group, which maintained a stable rate, accounts for a larger *share* of U.S. childbearing today. The answer really depends upon which question one is asking.

What of the future? The *number* of births is likely to decrease as smaller groups of baby-bust women enter their childbearing ages. In 1990, the age group 15-19 was almost one-fifth smaller than the age group 25-29. Barring further rises in the birth *rate*, total births will go down.

What about the birth rate? In 1991, the U.S. birth rate stopped rising and even fell a bit below that of 1990. No one knows why, although speculation centers on the possible effects of the national recession.

Perhaps the only thing we can say about the U.S. birth rate is that it will keep us guessing.

—Carl Haub

SURVEY REPORT
Belize

Prior to the 1991 Belize Family Health Survey, detailed fertility information was scarce for this small Central American nation of 189,000. Demographers interested in Belize (called British Honduras until 1973) relied on limited or general data to estimate demographic indicators such as the TFR (total fertility rate, or average lifetime births per woman) and CPR (contraceptive prevalence rate). As a result, estimates varied widely. During the period 1986-1990, TFR estimates ranged from 4.0 to 5.0 and CPR from 37 to 44 percent.

The 1991 survey, which is similar in format to the Demographic and Health Surveys (DHS), collected information from more than 2,500 households. The preliminary report analyzes four of six objectives set forth by agencies sponsoring the survey: national-level fertility estimates; duration of breastfeeding; knowledge, use, and source of contraceptives; and levels of women at risk of unplanned pregnancies.

Survey results indicate a TFR of 4.5, falling right in the middle of the range of predictions. The report provides fertility rates by several characteristics, such as age, education, work status, urban/rural residence, and language spoken in the household. The rate of teenage childbearing, at 136 births per 1,000 women age 15-19, is at the high end of the scale of adolescent fertility rates in Central America.

The overall knowledge of family planning is high; 95 percent of those interviewed knew of at least one contraceptive method. As expected, more educated women are more likely to know about family planning. Yet, contraceptive prevalence is lower than would be expected given the high awareness level. Less than half (46.7 percent) of married women age 15-44 are currently using any method of family planning; only 41.7 percent use a modern method. These rates are lower than for many neighboring countries, such as Costa Rica, Panama, and Mexico. The rate for the developing world as a whole is over 50 percent.

Around the world, voluntary female sterilization has become the most common family planning method, generally used by women who have completed their desired family size but are still of reproductive age. In Belize, female sterilization is the predominant contraceptive method, accounting for 40 percent of current users. Oral contraceptives are the next most widely used method, serving another 32 percent of users. In Belize, the government provides the majority of sterilization services, while family planning associations and pharmacies supply other methods of contraception.

The survey results indicate that more than 40 percent of women not using contraceptives are candidates for family planning services (that is, their reasons did not include lack of sexual activity, pregnancy, or inability to conceive). In addition, more than half of the non-users claim they desire to practice family planning and most knew where to obtain a method.

Once the final report is released, Belize health professionals hope to have accurate national-level information on other aspects of family health such as infant and child mortality, morbidity, and immunization rates in order to evaluate the current status of health programs and target specific populations in need of family planning and maternal and child health services.

1991 Belize Family Health Survey, Belize Family Life Association and Belize Ministry of Health. Reprinted by the U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, Atlanta, Georgia 30033.

—Sasha Loffredo

Census Taking in Niue, South Pacific

Alofi Harbor: Since the count was *de facto*, we could include the travelers.

The census conducted in China in July 1990 was the largest enumeration ever to take place in human history. It gave a total head count of 1,133,682,501 (see *PT*, January 1991, p. 3).

The *smallest* census enumerations might well be those that take place every five years or so on the Polynesian island of Niue (area: 260 sq. km.; population: 2,267 as of October 1, 1989).

The censuses of Niue employ extraordinarily sophisticated modern methods. Generally two forms are used: one for each household, and one for each individual. Enumeration follows a *de facto* rule, so everyone on the island at census time (precisely midnight of census day) is counted. Census schedules contain a large array of questions but, given the size of the population, can easily be processed with a microcomputer. Census data are processed, analyzed, and published in Niue, often with technical assistance from the South Pacific Commission (SPC) in Nouméa, New Caledonia. Niue's census enumerations are believed to be complete, usually matching results yielded by the civil-registration system.

During the 1981 Census of Niue, which I helped conduct as a United Nations demographer based at the SPC, I remember working with my Niuean colleagues on enumerators' and supervisors' manuals, census block maps, coding sheets, tabulation schedules, training sessions for enumerators and supervisors, and enumeration field work. An American computer specialist was to process the census on a single Apple II which he had brought along.

The census commissioner, Mr. Sol Kalauni, told me right away that his prime concern was to count at least 3,000 people on the island, so that the government would continue to qualify for certain levels of assistance from New Zealand (Niue has a free association status with this country). Although the total South Pacific population is currently increasing at the rate of 1.2 percent per year, some island-states have seen their populations decrease sharply as many Pacific islanders emigrate to Australia, New Zealand, and the United States. Incidentally, at that time the total population of the South Pacific region (less Australia and New Zealand) was about 5 million—roughly equivalent to the number of *enumerators* in the 1982 census of China.

This constant concern with the number of Niueans is best illustrated by an episode which took place during the 1981 census. A French sailing boat happened to anchor offshore in Alofi harbor the day before the census. Since the boat was within Niuean territorial limits and the enumeration was *de facto*, we could include the travelers!

I was the only French-speaker on the island. My suggestion to paddle on a canoe to go enumerate the boat was met with enthusiasm. This would definitely add a few persons to the total count as we were still afraid to end up with fewer than 3,000 people. So, I went to visit the boat and enumerated four persons. The boat was considered a household (one household form), with 3 males and 1 female (four individual forms), all French citizens, but listed as resident aliens.

Another unique feature of the census was the peculiar method used to correct the enumeration forms. Instead of going back to the field to check the questionnaires, each problem (for example, inconsistencies among responses) was submitted to the census commissioner who normally was able to correct the form at once for he knew personally everybody on the island. A couple of times, however, he had to call some respondents on the telephone. No need here for imputation.

The evening before the census date (midnight of September 28), the young French woman from the sailing boat decided to jump ship after a quarrel with her boyfriend. She spent the census night at a government guest house. Next morning, I went to see the census commissioner to tell him about this migratory movement. Some corrections were needed on the census forms. Mr. Kalauni looked at me with a smile. A true professional, he had already made all the necessary changes. Everyone on the island was quite aware of what happened the previous night on the boat! Data quality is best achieved in small populations.

My mission to Niue was successful in Mr. Kalauni's terms. The total count of the 1981 census was 3,281 people, although this represented only half the number who lived permanently in New Zealand (mostly in Auckland) at that time. It was also a fascinating opportunity to follow a complex census operation from A to Z, not to mention the fond memories of a unique place on Earth.

—John F. May

John F. May, a demographer with The Futures Group, in Washington, D.C., is a Visiting Scholar at PRB.

DEMOGRAPHER'S PAGE

New UN Projections Show Uncertainty of Future World

by Carl Haub

How large will world population grow to be? For those involved in development issues, food production, the environment, and many other fields, that is the "$64,000 question."

Despite an overall—albeit very slow and at times halting—decrease in the world population growth rate (from 2.0 percent in the late 1960s to about 1.75 today), billions of people have been added and in record time. Totaling 3 billion in 1960, world population swiftly expanded to 5 billion by 1987 and stands at over 5.4 billion just five years later.

Yet, during the past decade, world population has receded as an issue in many minds. This may result from falling birth rates in many developing countries and fertility low enough to portend population decrease in most developed countries. True enough, but is such complacency warranted? The new United Nations population projections clearly show that it is not.

The 1990 "extensions" (as the projections are now called) show seven divergent long-range scenarios, yielding world population totals by the year 2150 from 4 billion to 694 billion (the latter if current growth rates remained unchanged). In a major departure from past practice, only one of the seven extensions assume that world population will reach a stationary replacement level within the next century.

The United Nations Population Division publishes a well-known series of world population projections every two years, the last being the 1990 revision. These biennial projections, however, end in the year 2025, so that long-range implications are not apparent. Periodically, the UN Population Division extends the series to the end of the next century, providing a look at future stationary population size. The last such series was published a decade ago, and was based on the 1980 revision.[1] The division's recently released *Long-range World Population Projections: Two Centuries of Population Growth, 1950-2150* incorporates an updated knowledge base, including the latest census counts and new insights on fertility trends from programs such as the Demographic and Health Survey.

The UN projections are particularly important since they form the basis for many scenarios of the future that are likely to be found elsewhere. Other UN specialized agencies, for example, use them as denominators for projecting per capita economic indicators: the UN Food and Agriculture Organization for food production projections; the International Labour Organization for labor force; and the list goes on.

Beyond Replacement

In making world population projections, demographers typically make several overriding assumptions about future birth rates: first, birth rates will fall in every high-fertility country; second, they will fall to and stabilize at the "replacement level." Replacement fertility is achieved when couples average two children each, just "replacing" themselves as they leave the reproductive phase of life. Replacement level is generally considered to be equal to a total fertility rate (TFR) of 2.1 lifetime children per woman. (The ".1" compensates for the fact that not all women live to or through their childbearing years; those who survive must produce a little "extra" fertility.)[2]

In past long-range projections, the UN and others have assumed that all countries would arrive at replacement fertility—whether their birth rate needed to fall or rise to get there. The UN's most widely-used 1980 scenarios—the high, middle, and low—differed only by when, not if, the world would reach replacement level.

The UN's 1990 extensions, by contrast, contain seven scenarios: medium, high, medium-high, medium-low, low, "instant replacement," and constant fertility (see table). In a departure from past practice, only the medium series assumes permanent replacement. The medium-high series assumes that world fertility will settle on a value 5 percent *above* replacement level; the medium-low series assumes 5 percent *below* it. This seemingly subtle distinction makes a big difference in the longer-term outcomes—20.8 billion compared with 5.6 billion by 2150. For the 1980 series, the high, medium, and low variants assumed that once replacement level fertility was reached, it would be unwaveringly maintained by all countries. The only real justification for such an assumption is that it is statistically convenient.

The 1980 long-range projections did include nonreplacement-level sets of projections, called the growth and decline variants. Most users, however, ignored them and limited their attention to the high, medium, and low variants. Primarily, they used the medium variant—treating it almost as if it were the only UN projection. In some cases, analysts placed too much significance on small deviations from the medium series. It was often noted that "the UN projections are up (or down)" even when the significance of that fact was marginal at best.

When restricted to the use of the 1980 high, medium, and low variants, the range of future world population size has been most often quoted as 8 to 14 billion, thereby establishing a sort of theoretical set of outside limits of possibility. The new extensions shake us rudely from such complacency and show us how little we really know of the future.

The results of each projection, along with fertility assumptions, are shown in the table. First, let us look at the admittedly unlikely scenario of constant fertility at today's levels, which shows where

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United Nations Long-Range Projections: 1980 and 1990 Assessments

Year	1980 Medium	1990 Medium	1990 High	1990 Medium-High	1990 Medium-Low	1990 Low	1990 "Instant Replacement"	1990 Constant Fertility
1990	5,292	5,292	5,327	5,327	5,262	5,262	5,292	5,311
2000	6,261	6,261	6,420	6,420	6,093	6,093	5,792	6,463
2025	8,195	8,504	9,444	9,444	7,591	7,591	7,069	10,978
2050	9,513	10,019	12,506	15,328	7,817	7,813	7,697	21,161
2100	10,185	11,186	19,156	17,592	6,415	6,009	8,087	109,405
2150	10,139	11,543	28,025	20,772	5,633	4,299	8,351	694,213
Ultimate TFR	2.07	2.06	2.50	2.17	1.96	1.70	NA	NA

Source: United Nations, *Long-Range World Population Projections: Two Centuries of Population Growth, 1950-2150* (New York: UN, 1991).

population growth would be headed "if present trends continue." If fertility remained constant at today's level, the world population would reach 694 billion by 2150! And, although country-level fertility remains constant, the world level actually rises (from a TFR of 4.3 in 2025 to 5.7 in 2150) since the population share of the high fertility developing countries increases. Granted, the results of this projection border on the absurd, but it might be a good idea to pin the constant series on the wall just to be reminded of the growth potential of world population. In another "what if" scenario, the "instant-replacement" extension assumes that replacement was reached two years ago in 1990, leading to an ultimate population size of around 8 billion.

A Murky View

The medium series ("the most likely scenario" as we mistakenly tend to call it) shows an ultimate world population size of 11.5 billion. This series shows the world's regions reaching replacement on a schedule built on assumptions reflecting the regions' current birth rates, population policies, socioeconomic situation, and other factors. It is assumed that developing countries will see their birth rate decline as they develop and urbanize, following the experience of today's industrialized nations. The exact date of reaching replacement varies from 2100-2105 for most developed countries, who usually must rise to reach it, to 2045-2050 for Africa and Latin America. China is projected to return to replacement by 2100-2105, after falling to 1.8 in 2025.

Interestingly, the groupings "more developed countries" (MDCs) and "less developed countries" (LDCs) are not used in the new publication, replaced by the terms "Group I" and "Group II," which reflect region as much as stage of development (although the new categories correspond closely with previous ones). As it happens, the long-range projections were performed at the regional level, not country, making re-aggregation into MDCs and LDCs difficult. Arguably, extending today's distinction between "developing" and "developed" countries over 150 years from now is inappropriate.

The medium extension of ultimate population size is over 1 billion higher than the 1980 projection. Part of the reason is that higher life expectancies were assumed. Some analysts have seen past assumptions as too conservative and most recent projections have raised future life expectancy, in part because some countries have already exceeded them. Thus, in the 1990 UN projections, male life expectancy at birth is assumed to rise to 82.5 years (way up from the previous assumption of 73.5) and female to 87.5 years (it had been only 80.0). A similar series of projections from the World Bank uses even higher assumptions.[3]

This series departs most dramatically from earlier versions in that these projections do not assume replacement-level fertility in what once were called the high and low variants. As discussed earlier, the medium-high and medium-low fertility extensions assume only a 5 percent variation either way from replacement. Nevertheless, the results by 2150 are very different indeed: 20.8 billion (and still growing) versus 5.6 billion (and slowly declining). Two *very* different results from small differences in the underlying assumptions.

So, there you have it. A reminder once again that our knowledge of future world population is murky indeed. While we make tidy statistical assumptions about the world's countries, the coming reality will likely be a mix of many demographic futures, all summing to some unknown world total. Looking at the UN's new projections for the year 2000, little difference can be seen among the seven scenarios. However, 2150 is quite a different story.

Notes:

1. United Nations Population Division, "Long-Range Global Population Projections, As Assessed in 1980," *Population Bulletin of the United Nations* No. 14, 1983: 16-30.
2. A TFR of 2.1 represents replacement level only for countries with low mortality (high life expectancy at birth). Countries with lower life expectancy—between 50 and 70 years—can reach replacement with TFRs anywhere from 2.2 to nearly 3.0. The assumption is, however, that birth and death rates will fall roughly together.
3. *World Bank Projections, 1990-1991* are currently available as working papers, but are normally published in hardbound form by the Johns Hopkins University Press. The World Bank produces only one series, but makes long-range projections for individual countries. The UN only projects regions.

Child Survival and the Demographic "Trap"

Is it responsible to improve the survival rates of children in less developed countries without also making vigorous family planning efforts?

This is the question posed to the world-health community by Maurice King, a professor of Public Health at the University of Leeds, England. King raised the issue in the prestigious British medical journal, *The Lancet* (September 15, 1990) and in 1991, in the journal *NU (Nytt om U-landshälsovård)*, published by the International Child Health Unit of Uppsala University, Sweden. Halfdan Mahler of IPPF, Richard Jolly of UNICEF, and other experts concerned with child health contributed opposing viewpoints to *NU*.

The debate, encouraged by a supportive *Lancet* editorial when King's original article appeared, still continues in that journal, with a January 4 letter to the editor on "unsustainable population growth" in Yemen. And, UNICEF's just-released annual report, *The State of the World's Children 1992*, for the first time contains an impassioned plea for family planning.

The crux of King's argument is that in some areas of the developing world, notably sub-Saharan Africa, population growth has begun to progressively undermine the "carrying capacity" of available resources, with serious implications for ecology and health.

Transition or Trap?

King refers to the demographic transition theory—which demographers use to summarize what happens to birth and death rates as countries modernize. In the first stage, prior to advances in public sanitation and medicine, high death rates, especially for infants and children, are balanced by high birth rates, so that population growth is minimal. During the second stage, as living conditions and medical technology improve, death rates fall. Birth rates, however, remain high, causing the population to mushroom.

In the third stage, couples begin actively to limit the numbers of children they have, responding to a combination of rising education levels and living standards, the incentives built into a wage economy, changing roles of women, and the sense that, with more children surviving, they can afford to have fewer births. Information about and access to modern contraceptives help translate new attitudes into sometimes dramatic changes in reproductive behavior. At this stage, the population eventually stabilizes again, with new, lower, rates of births and deaths.

Demographers consider areas such as Europe, North America, and Asian countries such as Japan, Hong Kong, and Korea—where most women have two or fewer children in their lifetimes—to have reached the third stage of the transition. Falling family size in South America, with the TFR (total fertility rate, or average lifetime births per woman) at 3.5, suggest the demographic transition is already underway. The TFR for Africa remains a high 6.1—but death rates have fallen, and the theory predicts that fertility rates will eventually follow.

Ethics or Ecology?

King, however, argues that for some countries, time has run out for a transition. Instead they are falling into a "demographic trap." In this trap (a term borrowed from the neo-Malthusian literature on population and economic development), overpopulation will "destroy the biological support system and cause ecological collapse." In Ethiopia, King believes, such a collapse has already produced "ecological refugees." He speculates that reported recent slowdowns in the decline of infant mortality in several developing countries and rises in others may be a sign of the process beginning.

King challenged the World Health Organization to introduce the concept of sustainability into its official definition of health, which would then read: "Health is a *sustainable* state of complete physical, mental, and social well-being, and not merely the absence of disease and infirmity." In a follow-up letter to *The Lancet*, King said that drawing attention to the need to sustain the ecological foundations of health was the "central suggestion" of his article.

Most controversial, King questioned the ethics of providing child survival programs under "trap" conditions. In particular, King criticized UNICEF for "having insisted...that reducing the death rate always reduces the birth rate." He advised UNICEF to "promote sustainability as the impetus to drive [rigorous] family planning programmes in all communities in danger of the trap."

In his replies in *The Lancet* and *NU*, UNICEF's Jolly denied that charge. UNICEF, he said, has long promoted child survival within the larger context of population-growth issues and "plays a major role" in "logistics, training of family planning providers and advocacy and education about birth spacing and family planning." Nevertheless, family planning remains primarily the responsibility of another UN agency, the United Nations Population Fund (UNFPA).

In May 1990, WHO, UNICEF and UNFPA signed a joint statement of common goals, which, in part, called for "access by all couples, especially women, to family planning information and services."

In *NU*, Jolly wrote, "UNICEF's major annual publication, *The State of the World's Children Report,* has had a section on population issues and family planning in every single issue over the last ten years." Until quite recently, however, UNICEF does seem to have had some difficulty making eye contact with family planning issues.

The *1984 State of the World's Children* report linked child survival to the goal of "slowing population growth"—but through the argument that "child survival lowers the birth rates." From a similar perspective, the 1988 report stated that "preventing births that come 'too many, too close, too young, too old,' can do more to improve mother and child health than almost any other single intervention" and advocated birth spacing to save the lives of mothers and children. Also in 1988, UNICEF's report for the first time contained data on contraceptive prevalence rates and population growth. The 1991 report fea-

Continued on next page

Child Survival
Continued from previous page

tured a section entitled "Child survival and population growth," but again stated that "[d]oing what can now be done to reduce child deaths in the developing world would also help to slow population growth."

UNICEF's 1992 report, however, is a real departure. Although supportive of family planning in the past, here the agency strongly advocates birth planning, giving it a heightened moral and tactical importance. The "failure to realize the potential" of family planning, says the report, is "one of the greatest mistakes of our times." Meeting the "vast unmet demand for the knowledge and means of family planning" would reduce maternal disability and death, prevent many illegal abortions, save children's lives, and improve the life chances of women and children, as well as slow population growth. In addition, "such is the range of methods now available...that family planning can be promoted and practiced in ways which are sensitive to the religious and cultural contours of almost all societies."

However, another section of the 1992 report, "Fewer deaths, fewer births," takes up the child survival argument, stating: "reducing child deaths is one of the most powerful of the forces which make up the reins of population growth."

Although updated with ecological terminology, King's critique raises basically the same questions as did Thomas Malthus, in his famous *Essay on Population* two centuries ago: Will population increase outstrip growth in food production? If so, can efforts at redistribution of resources accomplish more social benefit, in the long run, than neglect?

In a moving rebuttal in *NU*, Halfdan Mahler ponders whether "'solutions' of such an outrageous nature"—[that is, neglect of "sick and starving children"]—"should perhaps not even be floated as a provocation to an amoral world? The ethical stakes are just too high."

But, it is unlikely that this debate, already 200 years old, will ever be entirely resolved. It reflects ethical and moral dilemmas in the population field that require both thought and sensitivity.

—Susan Kalish

POPULATION UPDATE

Estimated United States Population:

As of November 1, 1991	253,610,000
As of November 1, 1990	250,969,000

The above estimates, based on the 1990 Census, include armed forces overseas and are from U.S. Bureau of the Census *Current Population Reports*, P-25, no. 1081.

Estimated World Population:

As of February 1992	5,438,000,000
Annual growth	93,000,000

Extrapolated from the mid-1991 population on PRB's *1991 World Population Data Sheet*.

Latest Provisional Statistics for the U.S.: September 1991

	12 months ending with September					
	Number		Rate			
	1991	1990	1991	1990	1989	1988
Live births	4,135,000	4,146,000	16.4	16.6	16.1	15.9
Deaths	2,149,000	2,174,000	8.5	8.7	8.7	8.9
Natural increase	1,986,000	1,972,000	7.9	7.9	7.4	7.0
Marriages	2,387,000	2,452,000	9.4	9.8	9.7	9.7
Divorces	1,180,000	1,190,000	4.7	4.8	4.7	4.8
Infant deaths	37,000	38,500	9.0	9.3	9.8	10.0

Note. Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births.
Source. National Center for Health Statistics, *Monthly Vital Statistics Report*, vol. 40, no. 9 (1992).
Correction: In the January 1992 issue of PT, the October 1990 U.S. population was stated incorrectly. The October population was actually 250,726,000.

Announcing: The Challenge of World Heath

Enormous changes have altered the world-health picture. Since 1950s, world life expectancy rose from about 47 to 64 years. Still, more than 300 million people live in two dozen nations where average life expectancy is less than 50, and one in ten infants die before age one. A new PRB study updates the major issues in world health showing dramatic differences between developed and developing countries and assessing factors driving future changes.

Some emerging issues:

- **Disability.** Analysts are increasingly measuring the consequences of disease not only in number of deaths, but also in the toll exacted in the quality of life by disease-caused disability.
- **Lifestyle.** The greatest health gains in coming years in the developed world are expected to come from the promotion of healthier lifestyles. Smoking, alcohol and drug use and pollution are the greatest killers and disabler.
- **Who gets sick?** Heart disease, high blood pressure, and cancer—sometimes called "diseases of affluence" since they are the leading causes of death in rich countries—actually afflict the poor more than the better-off residents of developed countries.
- **The cost of improving health.** Better health does not have to carry a high price tag. Some relatively poor countries have made remarkable health advances. Six countries with per capita gross national products of less than $2,000 have achieved life expectancies of 70 years or greater.

The Challenge of World Health, by W. Henry Mosley and Peter Cowley, *Population Bulletin* 46, no. 4 is available from the Population Reference Bureau, 1875 Connecticut Avenue, N.W., Suite 520, Washington, DC 20009-5728 (1-800-877-9881). Price: $8 per single copy, discounts for multiple copies.

The Reader's File

Family Planning World, which made its debut this fall, covers the major news stories of the population field in an accessible, journalistic manner, using *USA Today*-type color and graphics. James D. Snyder, editorial director, is an old population hand who in the early 1970s founded *INTERCOM,* which was later purchased by PRB and became the precursor to *Population Today* (see *PT,* January 1992). Enterprise Communications International, Snyder's firm, publishes the 32-page, tabloid-size bimonthly with funds from DKT International, whose president, Philip Harvey, also heads Population Services International. These two nonprofit organizations engage in social marketing of family planning products and services.

"The family planning professional is "pretty well served on the technical side" Harvey told *PT,* but needed a "good source of news and in-depth reporting."

Family Planning World, Enterprise Communications, 1165 Northchase Pkwy., Suite 303, Marietta, GA 30067, $29/year (special introductory offer, $19/year). For editorial matters contact: John M. DiCongsiglio, editor, 1483 Chain Bridge Road, Suite 202, McLean, VA 22101, 703-448-0322.

New research and the safer copper IUD have renewed interest in this venerable device, among the most effective of reversible contraceptives. Research that linked IUDs and potentially fatal pelvic infections discouraged U.S. use, although many countries continue to use it. Now it is thought that only women who are at high risk for sexually transmitted diseases should avoid the device.

The Population Council and *Contraception* will sponsor a March 27-28 Conference in New York City, "A New Look at IUDs—Advancing Contraceptive Choices, A Balance Sheet of Risks and Benefits."

See "Special Section on IUDs," *Family Health International Network,* vol. 12, no. 2. For conference information contact: Susan Patterson, Butterworth-Heinemann, 80 Montvale Avenue, Stoneham, MA 02180. Phone: 617-438-8464, ext. 234 or 303; FAX: 617-729-4851.

TAKE A NUMBER

How we'll list the former Soviet republics. Users of PRB's *World Population Data Sheet* may already suspect some changes will occur in treatments of countries and regions in the 1992 edition. At this point, we plan to list the eleven member republics of the Commonwealth of Independent States (CIS) as independent countries in a "super-region" (much as we treated the former USSR on previous data sheets). The Republic of Georgia, if it remains outside the CIS, will be placed in Western Asia. Georgia, after all, lies in Caucasia, is contiguous to Turkey, and, well, we have to put it *somewhere.*

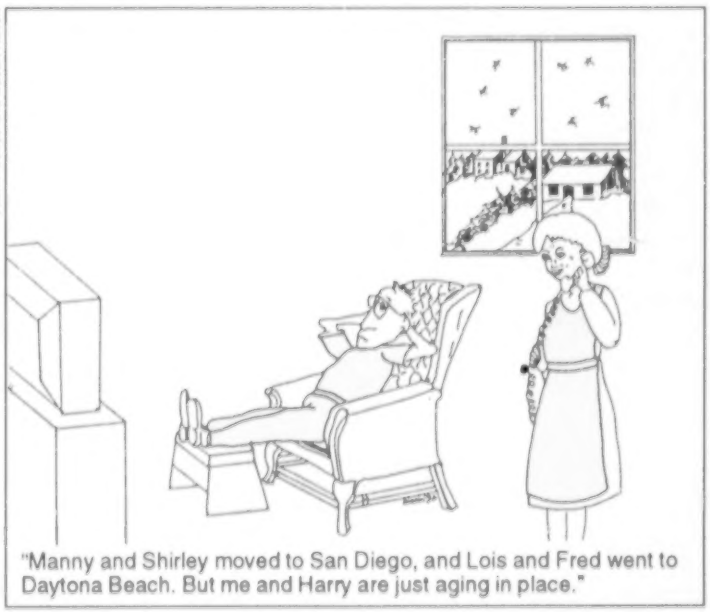
The three Baltic republics, Estonia, Latvia, and Lithuania, gained their independence in 1991 and will be listed as part of Northern Europe. We're unsure how to treat Yugoslavia, just yet. Slovenia appears to have separated, at least on a *de facto* basis; the European Community recognized Croatia and Serbia on January 15th.

Further changes: the 1992 *World Data Sheet* will include the Marshall Islands, Northern Marianas, and Micronesia, which have joined the United Nations (our policy is to show all UN members, regardless of size).

Fertility in Sweden and Romania. Sweden caught many by surprise when its total fertility rate rose from 1.6 lifetime children per woman in 1983 to 2.1 in 1990. But it looks as if the rise may have topped out in 1991, based on monthly rates through mid-1991. In Romania (see Speaking Graphically, p. 2), there were 314,700 births and 992,300 abortions in 1990, according to data obtained by Henry David of the Transnational Family Institute. This follows legalization of abortion on January 1, 1990. During 1990, the maternal mortality rate dropped by half—to 83 maternal deaths per 100,000 live births—still very high. The rate for maternal deaths due to abortion also fell—from 147 to 57 during 1990.

—Carl Haub

ADDENDA



"Manny and Shirley moved to San Diego, and Lois and Fred went to Daytona Beach. But me and Harry are just aging in place."

CURRENT READINGS

KENYA AT THE DEMOGRAPHIC TURNING POINT? Hypotheses and a Proposed Research Agenda, by Allen C. Kelley and Charles E. Nobbe, World Bank Discussion Paper 107, Washington, DC: The World Bank, 1990. 114 pages. $7.95. ISBN: 0-8213-1692-3.

Fertility declines have been documented recently in some sub-Saharan countries, most notably in Kenya, Zimbabwe, and Botswana. However, some researchers still doubt that the fertility transition has started in earnest in the region and, more importantly, they cannot agree on the factors that may trigger the onset of fertility decline. Considering the need for better explanations of fertility decline and the weakness of available policy frameworks to tackle the enormous challenges posed to development by rapidly growing populations, this essay by Kelley and Nobbe is both timely and useful.

Indeed, Kenya's persistently high fertility levels have puzzled both population specialists and policy-makers. A significant decline in Kenya's fertility was deemed mostly unlikely, or very remote at best, despite huge and costly programmatic efforts. What, then has made Kenyan fertility start to decline from a total fertility rate (TFR, or average lifetime births) of more than 8 children per woman to a TFR of 6.7 as assessed in the latest Demographic and Health Survey conducted in 1989? The authors contend that it is the dramatic rise in costs of education.

Universal primary-school enrollment has virtually been achieved in Kenya and education costs have increased tremendously (parents do not pay tuition fees *per se*, but share many other costs through various types of "levies" and expenses). The authors single out this factor as the major cause for fertility decline among many other potential candidates, such as changes in the political environment toward family planning, better family planning services, the drought of 1984, the AIDS epidemic, and infant- and child-mortality declines.

The authors thoroughly discuss the hypotheses and test them statistically with the (limited) available data. In the process, they make specific recommendations and indicate new policy avenues. They also point to many research gaps. What makes their essay most interesting is the large perspective they offer. Family planning services, although crucial, do not work in a vacuum but are synergetic with other factors such as the building of a reliable health system and, more importantly, the emergence (and possibly the creation) of a demand for smaller family size. These lessons are essential for other sub-Saharan countries and donors alike which are trying to bring about fertility declines in this region in the near future.

—John F. May

THE REAL WORLD: Understanding the Modern World Through the New Geography, edited by Bruce Marshall. London: Marshall Editions Developments Limited, 1991. 264 pages. $35.00 hardback. ISBN 0-395-52450-4.

From beginning to end, *The Real World* demonstrates how geography plays a crucial role in every part of our lives. With excellent illustrations and photographs from artists all over the world, it provides a cogent series of topical discussions that provide the reader with insights into human behavior—past, present, and future. "Humans Emergent," documents the expansion of the human population until the industrial revolution. Another section, "Globe Inc." brings the reader through the revolution to our current global economy, exploring the consequences of a global marketplace. Captivating titles range from "The Global Assembly Line," which discusses automobile production, to "Caffeine—Or Cocaine?" and "The Tropical Chain-Saw Massacre." The section on settlement explains the growth of the world's largest cities, giving in-depth information on the importance of location in terms of trade, access to resources, and prospects for growth.

To frame this ambitious exploration of human-human and human-earth interaction, the editors begin with a discussion of the physical earth and end by showing the world through maps. In between they provide an abundance of innovative maps, colorful graphs, and engrossing photos matched with engaging text, which indeed connect the reader to *The Real World.*

—Kimberly Crews

Books Received

China's Strategic Demographic Initiative, by H. Yuan Tien. New York: Praeger Publishers, 1991. $47.95.

Patterns of Aging in Thailand and Côte d'Ivoire, by Angus Deaton and Christini H. Paxson. Washington, DC: World Bank, 1991. $5.95.

Indian Muslims in North America, Omar Khalidi, ed. Watertown, MA: South Asia Press, 1991. $22.90.

The Biology of Life Span: A Quantitative Approach, by L.A. Gavrilov and N.S. Gavrilova. New York: Harwood Academic Publishers, 1991. $40.00.

World Bank Development Report 1991: The Challenge of Development. New York: Oxford University Press, 1991. $16.95 paperback.

Gender Differences in Household Resource Allocations, by Duncan Thomas. Washington, DC: World Bank, 1991. $5.95.

Modelling for Population and Sustainable Development, A.J. Gilbert and L.C. Braat, eds. New York: Routledge, Chapman & Hall, 1991. $74.50 hardback.

INDONESIA

Population: 181.4 million
Land area: 740,100 sq. mi.
Births per 1,000 population: 25
Deaths per 1,000 population: 8
Rate of natural increase: 1.7 percent
Total fertility rate: 3.0
Infant mortality rate: 73 per 1,000 live births
Life expectancy: 61
Capital: Jakarta

by Sasha Loffredo

The vast Indonesian archipelago lies on the Equator between the mainland Asian continent and Australia. Among the ten most populous countries of the world, Indonesia has a population of 181.4 million, about three-fourths that of the United States, but only one-fifth the land area.

Indonesia's people reside on slightly fewer than half of its 13,600 islands. Spread out over isolated areas, Indonesia is culturally diverse, with many different ethnicities, religions and languages. Although the official language is Bahasa Indonesian, residents speak about 25 languages and 250 regional dialects. By far the majority, 80 percent of the population, practice Islam in its many variations. The remaining 20 percent are Christians, Hindus, or animists. Indonesia contains one of the largest Chinese communities in Southeast Asia, totaling more than 2 million.

After declaring independence from The Netherlands in 1945, Indonesia experienced periods of political instability that lasted until President Suharto established the current New Order government in 1966. This government is strongly oriented toward economic and social development, emphasizing industrialization and manufacturing, transportation, and reducing foreign debt. Agriculture still employs half of all workers and accounted for 26 percent of the gross domestic product in 1987.

Almost two-thirds of the population live in the major island group consisting of Java, Madura, and Bali. Government-sponsored transmigration programs from these very densely inhabited islands have been offset by the continual influx of migrants, who are attracted by the economic opportunities and social services found on the more developed islands.

Despite high population growth rates in the past, Indonesia has increased its self-sufficiency in food supply and in providing low-income housing. Education has improved during the past two decades, and literacy rates are rising. The infant mortality rate has decreased steadily over the past 15 years, and currently stands at 73 deaths per 1,000 children under age one.

Indonesia's population growth rate is 1.7 percent each year, lower than the 2.1 percent average for developing countries. The National Family Planning Coordinating Board, which administers government efforts in family planning, is a major success story. Since 1970, the fertility rate has fallen from 5.5 to 3.0 births per woman. Over the past decade, the proportion of married women practicing family planning doubled—to over half. The pill, the IUD, and injectables (hormonal shots effective for two to three months) are the most-used forms of contraception.

Subsidized private marketing of the government's Blue Circle brand contraceptive products has increased access to and use of family planning.

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